

INCH-POUND

MS75103A  
7 September 2007  
SUPERSEDING  
MS75103  
14 March 1972

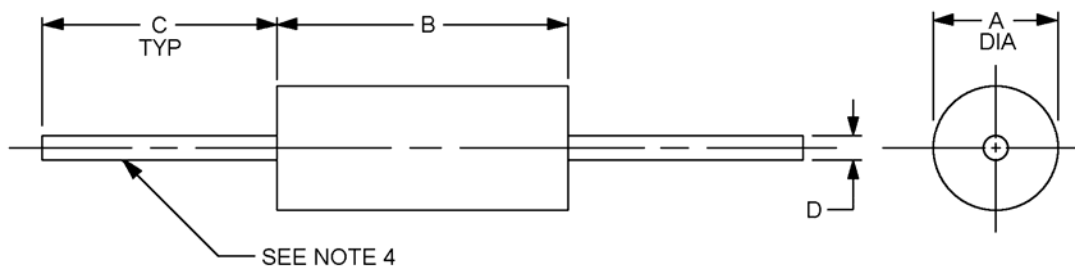
MILITARY SPECIFICATION SHEET

COILS, RADIO FREQUENCY, MOLDED, FIXED, SUBMINIATURE (IRON CORE),  
TYPES LT10K181 TO LT10K190, INCLUSIVE

Inactive for new design

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the products described herein shall consist of this specification and MIL-PRF-15305.



LTR	Dimensions in inches with metric equivalents (mm) in parentheses	
	Minimum	Maximum
A	.250 (6.35)	.313 (7.95)
B	.875 (22.23)	1.000 (25.40)
C	1.250 (31.75)	1.625 (41.28)
D	.026 (0.66)	.030 (0.76)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. These coils are intended to be supported by their body.
4. Solderable/weldable lead wire, number 21 AWG.

FIGURE 1. Dimensions and configuration.

REQUIREMENTS:

Design, construction, and physical dimensions: See figure 1.

Style: LT10

Grade: 1  
Class: A

Weight: 3.9 grams, maximum.

Operating temperature range: -55°C to +105°C.

Ambient temperature: +90°C  $\pm$ 5°C.

Temperature rise: 15 °C, maximum.

Terminal pull: 5 pounds, minimum.

Altitude: 70,000 feet.

Shock (specified pulse): Method 213 of MIL-STD-202, test condition I, is applicable.

Dielectric withstanding voltage:

At sea level: Method 301 of MIL-STD-202, test voltage 1,000 V rms for a minimum of 60 seconds.

Barometric pressure (reduced): Method 105 of MIL-STD-202, test condition C, test voltage of 200 V rms for a minimum of 60 seconds.

Electrical characteristics: See tables I and II.

Inductance: See table I.

Q values: See table I.

Self-resonant frequency (SRF): See table I.

DC resistance (DCR): See table I.

Part or Identifying Number (PIN): MS75103 - (dash number from table I).

TABLE 1. Electrical characteristics (initial).

<u>1/</u> Dash Number MS75103	Superseded MS PIN	Inductance ( $\mu$ H) $\pm 10\%$	Q (min)	Test Frequency (MHz)	SRF Minimum (MHz)	DC resistance Max. (ohms)	Rated DC current (mA)
-1	91189-29	22.0	50	2.5	24	0.295	725
-2	91189-30	27.0	45	2.5	22	0.350	660
-3	91189-31	33.0	60	2.5	19	0.550	525
-4	91189-32	39.0	55	2.5	18	0.650	485
-5	91189-33	47.0	65	2.5	16	1.00	390
-6	91189-34	56.0	65	2.5	14	1.15	360
-7	91189-35	68.0	75	2.5	13	1.85	285
-8	91189-36	82.0	75	2.5	12	2.10	265
-9	91189-37	100.0	75	2.5	12	2.50	245
-10	91189-38	120.0	95	0.790	10	4.10	195

1/ The coils are directly interchangeable with former PIN's (MS91189-29 thru -38). The decrease in maximum operating temperature from 125°C to 105°C does not downgrade these coils but assures satisfactory operation at 105°C for a minimum of 2,000 hours of life, rather than a shorter period of operation at 125°C.

TABLE II. Electrical characteristics (final).

Inspection group	Allowable variation from Initial measurement		Allowable percent from specified minimum value in electrical characteristics (initial) table	
	Inductance (percent)	DC resistance	Self-resonant frequency	Q
Qualification inspection				
Group II	$\pm 2$	---	---	-10
Group III	$\pm 5$	$\pm(3\% + .001 \text{ ohm})$	-8	-10
Group IV	$\pm 5$	$\pm(2\% + .001 \text{ ohm})$	-10	-15
Conformance inspection group C				
Subgroup I	$\pm 2$	---	---	-10
Subgroup II	$\pm 5$	$\pm(2\% + .001 \text{ ohm})$	-10	-15
Subgroup III	$\pm 5$	$\pm(3\% + .001 \text{ ohm})$	-8	-10

## Application notes:

1. The polarizing voltage during the moisture resistance tests is applied with the positive lead connected To the coil terminals tied together, and the negative lead connected to the metal strap.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Referenced documents.

MIL-PRF-15305  
MIL-STD-202

Custodians:  
Army – CR  
Navy - EC  
Air Force - 11  
DLA – CC

Preparing activity:  
DLA – CC

Project 5950-2007-043

Review activities:  
Army – AR, MI  
Navy – AS, MC, OS, SH  
Air Force – 19

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.